

4-16-1937

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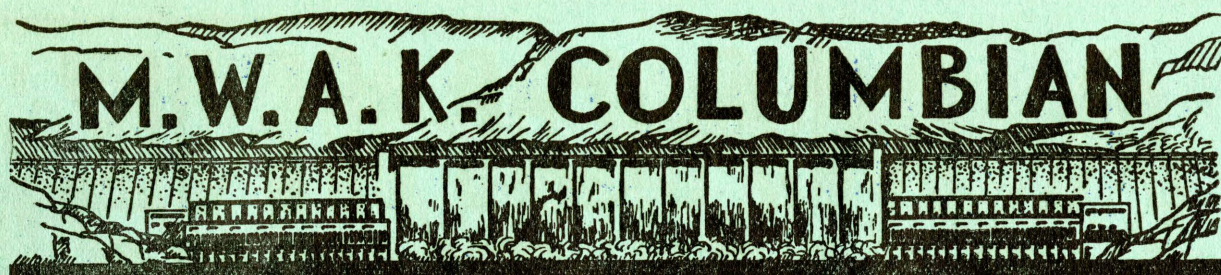
Mason-Walsh-Atkinson-Kier Co.

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SAFETY
DEPARTMENT

MASON-WALSH-ATKINSON-KIER CO.
BUILDERS OF COULEE DAM

MASON CITY
WASHINGTON

Vol. 5 No. 15

M. Pete Shrauger—Editor
Safety Engineer

April 16, 1937

JACKHAMMERS BEAT TATTOO FOR HALF MILLION BLASTS OF DYNAMITE

DRILLING USES MILLION POUNDS OF POWDER

In late summer or early fall one of the most colorful and spectacular operations should see its close--

Sometimes in straight lines, sometimes curving slightly, rock drillers move like a barrage slowly westward across the exposed river area, while the gray dust of granite blows upward from their pneumatic jackhammers. After then, three times daily, reverberations of dynamite shake the earth and break bedrock into a jagged blanket, to a more-or-less pre-determined depth and volume. The depth of drilling and the amount of powder determine that. Following the blasts shovels load the pieces of stone onto trucks until suitable bedrock is exposed for concrete.

This work of directly preparing for a dam began Sept. 17, 1935, when two jackhammers set to work drilling into west bedrock. Since that time nearly 1,000,000 yards of granite have been moved from inside the dam proper.

Grand total rock excavation, however, approximates 1,200,000 yards, including highway rock and other areas outside the concrete area. This excavation has meant

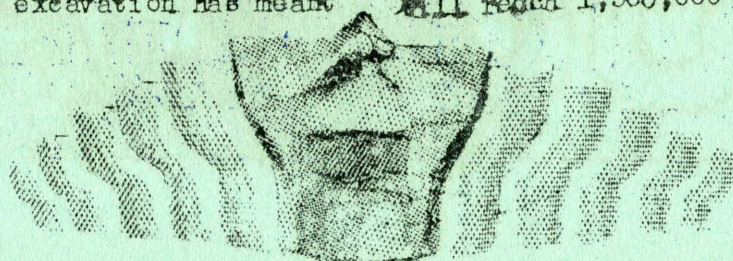
the use of 1,076,450 pounds of dynamite and 509,250 exploders. Explosive figures are based upon warehouse records of March 2.

With the dynamite ratio about one-half stick per lineal foot of drilling or about two-thirds of a pound per cubic yard, the use of dynamite can be gathered from rock totals for various scenes:::

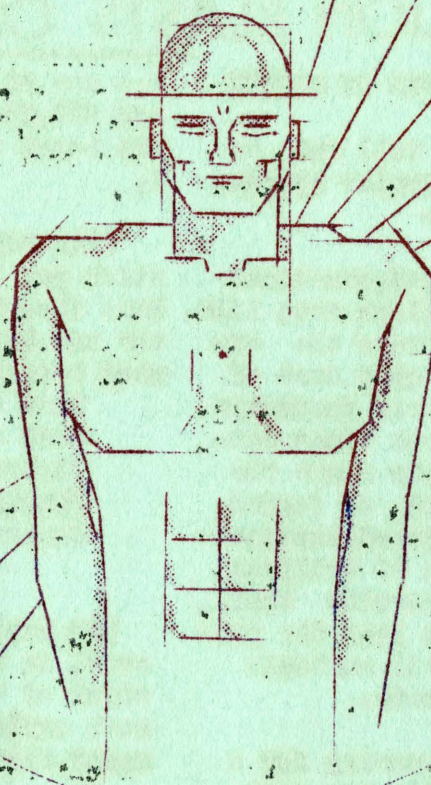
East side	425,000 yards
West side	345,000
Highways, etc.	240,000
Pumping plant	165,000
Center	30,000
	<u>1,205,000</u>

The ratio is slightly misleading, however, in that it does not include one stick of "wet" dynamite which encloses each exploder. One pound of dynamite means from two to two and one-half stick

Balance of rock excavation, which will require the use of powder includes an estimated 200,000 for the center, 40,000 for the east side and 35,000 additional for the pumping plant. The plan is to resume east drilling and pumping plant rock on the conclusion of center excavation. According to the estimate, rock excavation will reach 1,500,000 (Continued, Page 5)



A MACHINE
CAN'T THINK



YOU CAN

FROM THE
CRYSTAL BALL

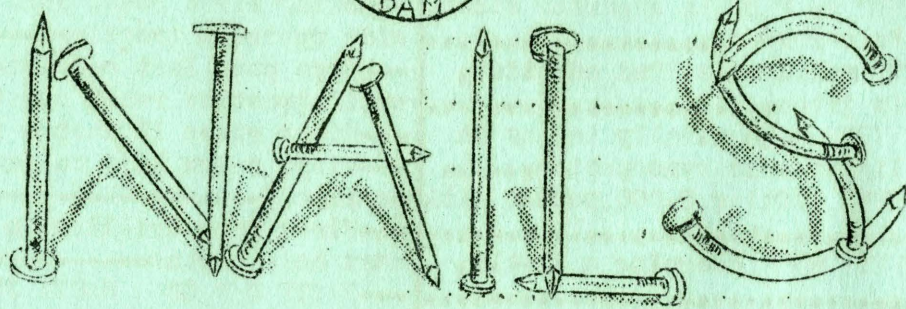
A YEAR AGO

JOHN SULLIVAN, Economist par-supreme, paying for more than gasoline for moving the four-wheel pride and joy along.....
and GRAHAM E. FIDWELL swearing sincerely that he's reformed.....
 HARRY EVERETT making his 32nd adoption, this time jiu jitsu.....
Jeff STEVENS mechanically taking in the bright lights--and syncopation.....
 LAVERNE SUMMERS lifting 2,000 pounds with ease.....
and MICKEY WAGNE becoming a little, round boy.....
 WALTER PURERBAUGH ready to start arguin' GENE DALY & ELMER JOHNSON working their way out of the dog house.....
 M. J. FABULAE, "I'm not going to walk;... send a pickup.".....
RAY BEARDEN improving the condition of the 'soul?.....
 FRANCIS ELLIS digging up the dirt.....
ELMER F. JACOBY denying he's Elmer... F. "Red" Jacoby, former noted football... ace of the northwest.....
L. D. LAFFERE, "Youve never done.... anything if you've never made a mistake."
 DON BRICHT again preparing to put money into circulation.....
 ...DON'T DEPEND UPON LUCK FOR YOUR SAFETY, FOR IT WON'T SUPPORT YOU.....
 W. S. HURLBURN not especially interested in smoking pipes but in cooling pipes....
FRED BALES, with injured wrist, murmuring to the evening air: "Los Angeles, I need you. I need you.".....
 W. J. AUBY, "If I'd thought to wear my working clothes I'd have had my brass."...
 ...ELEANOR LAY, why the champagne?.....
 "WINDY" CLARK ASKING FOR BLOODHOUNDS TO track down a softball bat and ball.....
FRANK LAVELLA, "I might need a little watching over.".....
 M. P. ANDERSON, "That! No teeth yet?!"...
BRANSCOM & RAMSEY forgetting they... were away from home.....
 BOB KERR, "Mama, we've got a new home."...
FRANK VINCENT again on the water wagon.....
 WILLIAM WARRENS throwing a fly 150 feet-- but not yet.....
CHARLIE MELANDER sleuthing for a-- strychnine seal.....

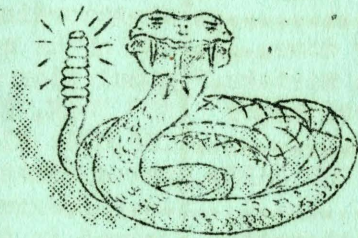
---Silas B. Mason, chairman of the board of the MWAK, dies after a heart attack in the Mason City hospital, April 14-----
 ---Swing first steel into place for east side upstream trestle-----
 ---Rigs pour last concrete for block 40, until trestles reach out to the block---
 ---River rises 15 inches in two days-----
 ---First calyx hole on east side, no. 10-completed-----
 ---First rock drilling in bottom of deep east hole begins-----
 ---HASTE CAN DO A HASTY JOB OF GIVING YOU THE WRONG KIND OF RUST ON A COT-----
 ---Eight months of railroad use bring in 81,000 net tons-----
 ---Rock excavation reaches 275,000 yards
 ---Lineal feet of grouting approach two miles-----

ODDS & ENDS

---According to an estimate by the bureau of the census for July 1, 1936, the population of the top three states was: NEW YORK, 12,935,000; Pennsylvania, 10,136,000; Illinois, 7,845,000. California rated sixth with 6,059,000.-----
 ---Approximately 12,000 American Indians served in the forces of the United States across the seas in the World War, and were noted for their courage-----
 ---No president of the United States has ever lived to be 100 years of age. The average has been 68.3. Before the Civil war it was 73.8; since, 62.4.....
 ---The salt content of Salt lake is 28 per cent.-----
 ---NAILS ARE THE WRONG KIND OF IRON FOR YOUR BLOOD-----
 ---It is generally believed that only one of Christ's apostles, John, escaped martyrdom-----
 ---The state flower of Washington is the rhododendron-----
 ---The U. S. Nautical mile is 6,080.2 feet. The speed of one nautical mile per hour is one knot.-----
 ---The length of the trunk in man is more than one-third and less than two-fifths of his height.-----



YOU WOULDN'T LET A
BLIND MAN STEP ON A
RATTLE SNAKE



SO

WHY LEAVE NAILS WHERE
YOUR CO WORKER WILL
STEP ON THEM



DYNAMITE

(continued from Page 1)

yards. This would mean about 175,000 added pounds of powder.

Rock crews work three 7-hour shifts. Four crews work the day shift; three crews the other shifts. A powder monkey is employed for each crew. Shifts employ from 50 to 60 jackhammers.

A jackhammer can drill from 10 to 12 feet an hour or average from 60 to 80 feet daily. Progress depends upon the condition of the rock. Drills, probably the finest of American make, last about five minutes boring into hard granite before they have to be sharpened. Sometimes they drill two inches, sometimes two feet. Changes in length and size of drill bits are made for every two feet of drilling. Dropping from 2½ inches in diameter with changes of 1/8-inch for every two feet, nine different steel bits necessary for a 20-foot hole. Twenty-foot holes were drilled for highway construction, but not for the dam. Present depth of drilling averages about eight feet.

Holes range from about three to six feet apart, depending upon the condition and contour of the rock. No more than 25 are drilled in one row and wired for the same time of explosion. Up to 10 rows are drilled for 10 different explosion times. The 440-volt switch is thrown at one time for all rows. The one second pause between each blast series is made possible by delays. A delay consists of cells, ranging from one to 10, through which a flame must pass before it reaches the dynamite cap. Each sulphur cell delays the explosion one second. The purpose of delays is to protect bedrock from too great a concussion that might result if upward of 250 holes exploded at once.

While the number of holes are limited in a row, in some cases where rows are short two rows are wired on the same delay. In general, however, a main or bus wire leads from the switch box conductor down between every two rows of holes. Cap wires lead from the bus wire down into

the holes, with no further wire connection from hole to hole.

Regular rock blasting occurs during the hour following 12 noon, 8 p.m. and 4 a.m. Dynamite in use is 25 per cent. This is a lifting rather than a shattering powder. The reason for its use is obvious: Final bedrock for concrete must be in good condition, certainly not cracked or shattered. Thirty per cent dynamite was used for the highway change above the west abutment. Here occurred the largest blast at the damsite when 3,000 yards of rock were removed by 2,250 pounds of dynamite. Such a blast probably would be devastating to deeper bedrock on the actual scene for the dam, however. The care exercised on bedrock explains why dynamiting seems the most sensational because of the noise it makes, rather than the amount of yardage it moves at one explosion. In general, the more noise an explosion makes the less rock is blasted out.

This "peeling off" of bedrock explains the use of such a huge number of exploders. One exploder to one hole means 500,000 holes drilled. Assuming that the average depth of holes is eight feet, then the lineal feet of drilling by jackhammermen reach 4,000,000 or approximately 770 miles. Actually such an assumption may be considerably off, but it does indicate that the jackhammers have gone in for mileage to bring about their results.

Scenes of dynamite not considered are the small and incidental uses on rock at Brett pit, breakage of river ice, breaking up of hard earth and clay above and beneath the surface at the east and west cofferdams, and other scattered scenes. Another point not given consideration because it is not for excavation purposes is the coming use of dynamite in the cross river cofferdams.

PREVENT INJURY TO YOUR LEGS AND FEET
HANDS AND FINGERS AND YOU PREVENT 56 PER
CENT OF THE INDUSTRIAL INJURIES AND 39
PER CENT OF THE COMPENSATION CASES.

These are only two of seven classifications of injuries. Note their high percentage. WATCH YOURSELF!

MASON CITY THEATRE

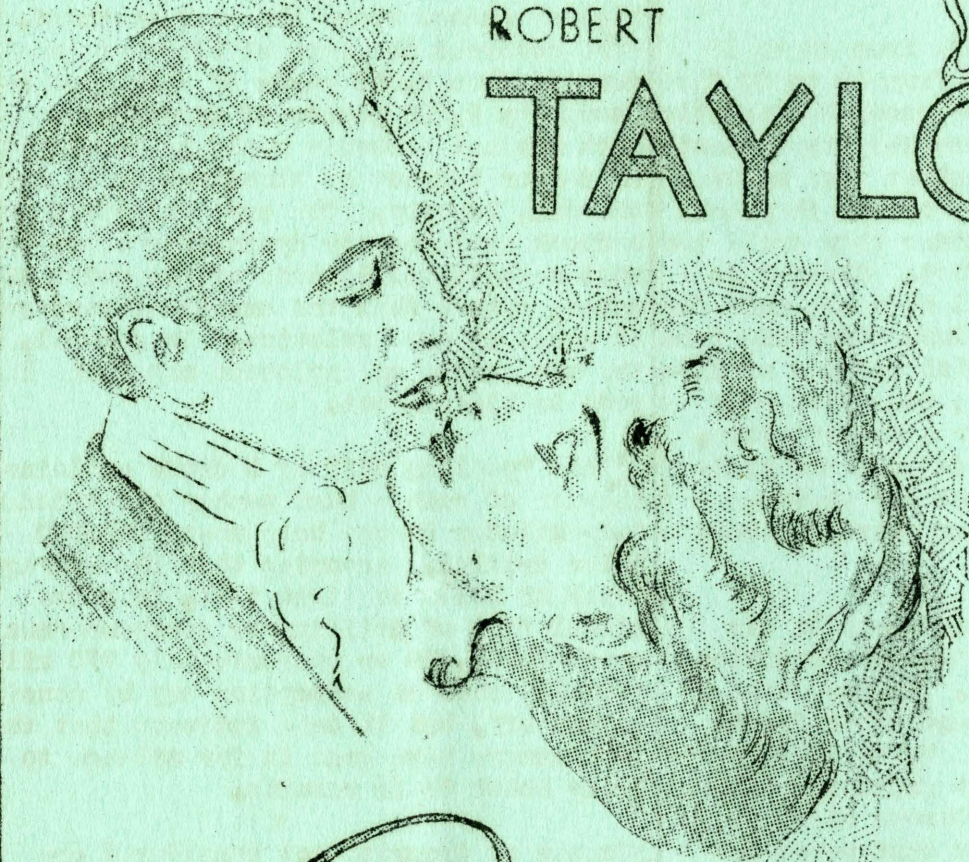
SUN & MON

GRETA

GARBO *loves*

ROBERT

TAYLOR



in CAMILLE

TUES
ONLY

9 P.M.

MOVIE

FREE



69.00

FREE

THREE BANK NITES
IN ONE

3 TIMES AS MANY
CHANCE TO WIN

~~SWEEPSTAKES~~

SAFETY SUGGESTIONS VS SAFETY SLOGANS

FREEZING PLANTS LIFE NOW SHORT

After eight months of service, only days mark the end of the use of the freezing plant for holding back the east slide area.

Already two concrete blocks facing the structure are level with the top of the freezing points driven 40 feet down into earth. Then the concrete level passes five or 10 feet above the 850 mark, the dam will see no further use. The refrigeration plant will be dismantled. The top level of the points is at 850.

The ice-earth dam has held the insistent slide away from the hole, 125 feet below first east bedrock

-oOo-

ANOTHER LIFE SHORTENS, TOO

Like the freezing plant, the hand-writing on the wall appears for the main conveyor. Days mark the end for it, too.

Steadily cut down from four laterals, a Bucyrus-Erie yesterday began uncerthing the timber enclosure of the feeder near the south end of the excavation area. This will mean the elimination of the one lateral, and will leave but one in use for final cleanup of the river area.

The entire area is essentially stripped of all bulky earth excavation. Even the dikes and roadways contain little earth.

The drying area of the lake formed by cofferdam locking, once worked on by jackhammers, contains only a bare film of excavation.

-oOo-

BORN AT THE MASON CITY HOSPITAL-----

April 9, to Mr. and Mrs. T. E. Best of Grand Coulee Heights, a son
April 10, to Mr. and Mrs. G. T. Sutherland of Coulee center, a son
April 14, to Mr. and Mrs. B. C. Bulgrin of Mason City, a son.

-oOo-

CONCRETE POURED UP AGAINST THE CELLS at the south end of the west cofferdam scene is not part of the dam, but a concrete toe to protect the cell. (f-6).

-oOo-

EIGHTEEN ARE PRACTICING ON THE MASON City courts for a tennis tournament for girls sponsored by the Girls' Federation club.

Slogans, Catch-Phrases, Verse and What-Nots continued to pour in to the Suggestion Boxes during the past week, and the M-W-A-K Company duly appreciates the continued interest. There are now a fully adequate number of slogans available for present use, however, and the Company would much rather have a few actual suggestions for the betterment of working conditions and consequent lessening of likelihood of accidental injuries and fatalities.

Mr. D. M. Hartman, Carpenter Helper, No. 7856, has the right idea in making the following suggestion, which Superintendents and Foremen are requested to read and act on::

He says: "THERE IS A TENDENCY AMONG CERTAIN CLASSES OF WORKMEN-- ESPECIALLY PUMPMEN, SIGNALMEN, AND INSPECTORS TO LOITER ON LADDERS, FORMS AND WALKS. STOPPING THIS PRACTICE WOULD ELIMINATE A REAL MENACE TO THOSE OF US WHO MUST BE CONSTANTLY WALKING BACK AND FORTH ON THESE 'STREETS' OF THE DAM."

Thank you, Mr. Hartman, and look for a slip entitling you to a box of cigars that will be attached to this week's pay check!!!

Other good suggestions came in, but they were too general in character..In sending in a thought that may win for you next week's cigars (and remember that this offer is in force until further notice) be specific -- point out some actual condition on the job that should and can be corrected.

-oOo-

MORE THAN 4,250 TONS OF REINFORCING steel have already gone into the dam and power houses. The total will eventually reach 32,500 tons before the dam is completed.

-oOo-



Justice R. I. Cross (to couple): "caught on a park bench, eh? What are your names?"
 He: "Ben Petton."
 She: "Annie Howe"

-oOo-

"Walk and See the World," says a headline. But if you do the walking in a city street the chances are that you will see the next world.

-oOo-

"I'm sorry to see you leave the job. Aren't the wages satisfactory?"

"The wages are all right, but I keep having a guilty feeling all the time."

"About what?"

"I'm all the time thinkin I'm doin' a caterpillar out of a job."

-oOo-

THE IDEAL MATRIMONIAL COMBINATION IS A MAN WHO ENJOYS MAKING MONEY AND A WOMAN WHO ENJOYS SPENDING IT.

-oOo-

Maureen: "I maintain that love-making is just the same as it always was."

"How do you know?"

"I just read about a Greek maiden who sat and listened to a lyre all the evening."

-oOo-

Dr. Beasley: "Awfully sorry, miss--- but I just tore off a piece of your gum."

Eileen: "That's all right. Just stick it under the chair and I'll get it as I go out."

-oOo-

DO YOURSELF A GOOD TURN BY WORKING SAFELY.

-oOo-

Wife: "What's the idea of poking the broom in the baby's face this morning?"

Craft: "I just wanted to get him used to kissing his grandfather."

-oOo-

MANY POLITICIANS WHO SET OUT TO STUMP THE COUNTRY FOUND THAT IT WAS ALREADY STUMPED.

Another of life's little happenings-- Don Lewis (explaining fractions to his daughter in the third grade): "This, honey, is the denominator; that, the numerator." "And this," the daughter concluded, "must be the refrigerator."

-oOo-

DRINKING IN FOOTBALL STADIA MAY BE ABOLISHED BUT THE GAMES WILL GO ON JUST THE SAME. AMERICANS WILL BE ABLE TO FIND OTHER REASONS FOR ATTENDING THE CONTESTS.

-oOo-

This happened, too---on a Friday. One room mate to another: "Wake up, don't you hear the bird singing?"

"That bird?"

"An eagle, and it's singing something."

"Yeah? What?"

"It's singing 'More dollars than Cents (Sense)'. So let's get up."

-oOo-

LENGTH OF LIFE DOES NOT DEPEND SO MUCH ON THE STAR UNDER WHICH ONE WAS BORN AS IT DOES ON THE COLOR OF THE TRAFFIC LIGHT ON WHICH ONE TRIES TO CROSS THE STREET.

-oOo-

Their meeting was so sudden,
 Their parting was so sad;

She gave her life so meekly--

'Twas the only one she had.

And down beneath the willow

She sleeps so peaceful now,

'Cause that's what always happens

When a fast train meets a cow.

-oOo-

"I have been called a turncoat," exclaimed the street-corner orator. "Years ago, I admit, I supported the other party. Then I had a reason. But now, gentlemen, (here came a triumphant gesture), now, I have lost my reason"

-oOo-

Falls
and
Serious
-Very!

Watch
Out
Not
Halling
Objects!

CHURCH

CATHOLIC CHURCH--Father A. Farrelly, pastor

On Sunday, April 18, mass will be said in St. Benedict's church, Mason City, at 9 a.m. and in Grand Coulee at 11 a.m. Instructions for children will be given Saturday at 10 a.m.

COMMUNITY CHURCH--The Rev. W. W. Sloan, Ph. D. pastor

9:45 a.m. Church school

11:00 a.m. Morning worship; subject, "An Engineer's Religion."

11:00 a.m. Junior church

7:00 p.m. Three meetings: vesper services, junior high and senior high.

8:00 p.m. **THURSDAY**, the second of a series of studies on "The Story of Jesus from the time of Jesus to the present time."

CHURCH OF JESUS CHRIST OF LATTER DAY

SAINTS--R. E. Nuttall, superintendent

(Mason City high school building)

10:30 a.m. Opening exercises

11:15 a.m. Department works:

Gospel doctrine: adults

Church history: juniors

Primary

ELECTRIC CITY UNION

CHURCH--M. E.

Bennet, Pastor

11:00 a.m. Sunday School

12:00 a.m. Morning Worship

6:30 p.m. Young people

SEVENTH DAY ADVENTIST

TEST (Electric City Union church)

Services are held every Saturday at 9:45 a.m., followed by Bible study.

CIVIL SERVICE EXAMS

From bulletins submitted from C. E. Sears, assistant postmaster, Mason City:: (1) park ranger, (2) senior educationist, (3) principal, Indian community and boarding schools, (4) junior warder (female), Federal industrial institution for women, (5) medical technician (tissue culture), (6) chief accountant, assistant, principal accountant, accountant and auditor, (7) foreman, dredge pipe line, Fort Peck, (8) operator, motor tug boat, Fort Peck, (9) senior and junior electrician, Bonneville. Further information may be obtained at the local post office or from the Manager 11th U. S. Civil Service district, 450 Federal Office building, Seattle.

-000-

WHERE GOES THE RIVER FLEET?

One floating rig remains of the coffer-dam-Building WPAK fleet. Even that, rig 21 with an 100-foot boom, is slated for work away from the river.

In a week or 10 days the rig will move to the east end of the west high trestle for the purpose of swinging steel into place out into the river area.

At the present time the one rig is tak-

ing care of west power house cleanup

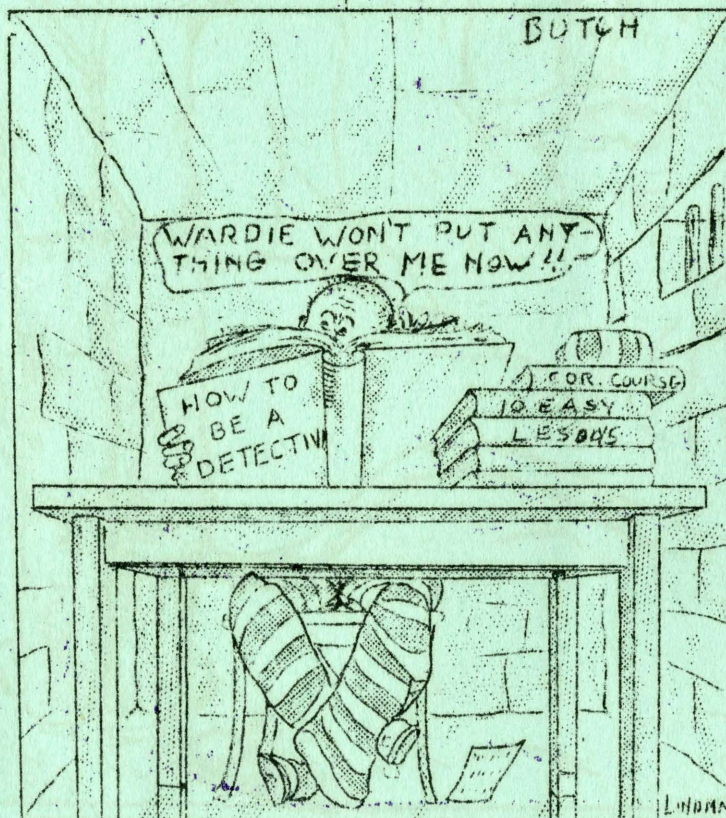
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**THINK OF YOURSELF
THINK OF YOUR FAMILY
LY THINK OF YOUR
FELLOW WORKER
KEEPING ACCIDENT
CONSCIOUS PREVENTS
ACCIDENTS**

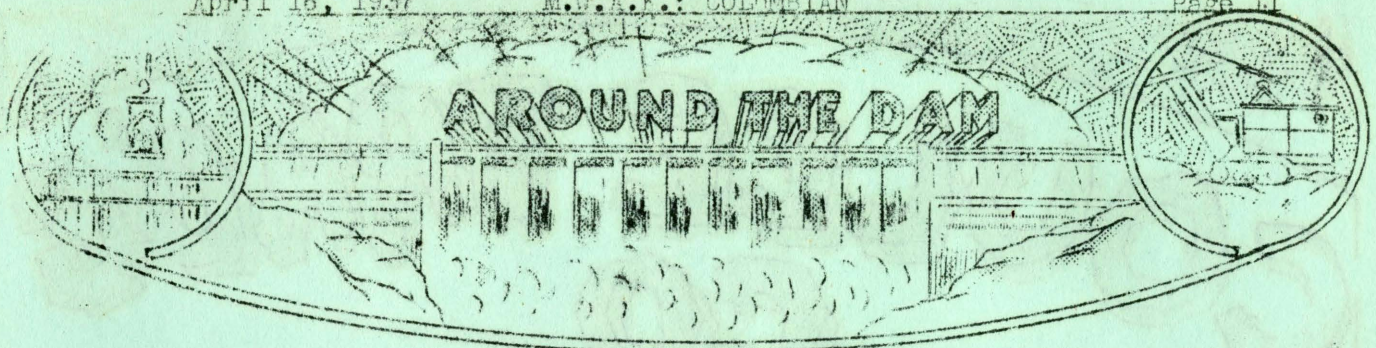
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ONE YEAR AGO ONE million board feet of timber extended in the east coffer dam across the river area where first rock has been removed.

THE AIRPLANE TRIP per at the ball park storage pile can withstand a gale of 100 miles per hour. Its work capacity is 1200 tons per hour.





BEGIN SEALING LEAK

Five drills grouped together yesterday began drilling into the channel of the leak through the cofferdams. Drilling is to be followed by grouting with bentonite, which reaches its highest expansion after it is forced down into the ground. This drilling is the first direct move to seal off the river. Previous drilling had been largely for the purpose of making an impregnable wall on both sides of the leak before the water would be shut out. Such a method gives more assurance that the Columbia river will stay where it belongs.

-oOo-

TWO COMPRESSORS, EACH OF 1200 CUBIC feet capacity, are being installed beside the steel sharpening shop to provide air for jackhammer work. Jackhammers are one of the major users of air on the job.

Each compressor, 22x13x16 feet, supplies 100 pounds pressure.

Concrete pouring for the foundations began Monday.

-oOo-

PREPARE FOR BLOCK 41

Workmen yesterday against the new coffer at block 40 began mucking for a concrete toe up to the coffer.

Concrete to go in here, however, will not be a regular toe, but will be a part of the bucket of block 41, or 41-H. I and J are in the coffer area. This concrete will be built up to meet the gravel fill. This gravel is the last stage of placing gravel on the downstream cofferdam, and will slope downward from the top of the coffer at elevation 890.

-oOo-

WHEN YOU ARE IN DOUBT, DON'T TAKE THAT CHANCE. PLAY SAFE.

-oOo-

THE RIVER HAS RISEN APPROXIMATELY 45 inches since lowest water level, and is now at elevation 937.3.

COOLING TAKES TIME OFF

Two cooling barges that began the job of cooling west side concrete finished the job last Saturday for all concrete poured to date on rock west of the river.

The barges began operations four months ago pumping river water through 1-inch pipe in each concrete lift.

Approximately 375 miles of cooling pipe are imbedded in west side concrete.

-oOo-

NEARLY 18,700,000 POUNDS OF CEMENT MIXED with water to form grout have been forced down into bedrock to seal all seams in the granite.

-oOo-

GROUT FIRST EAST C HOLDS

Forcing of grout under high pressure down deep into bedrock through diamond drill holes got under way Tuesday in the deep east hole.

C grouting, under a pressure up to 400 pounds, is done after at least 50 feet of concrete have been poured. B grouting is done before pours and is up to a 200-pound pressure.

-oOo-

YOU'RE NEVER SAFE ENOUGH TO BE CARELESS

-oOo-

OWNERS OF HORSES WINNING THEATRE STEEP-stakes: First, Tom Barry; second, Geo. Rooney; third, V. J. Voggenthaler.

-oOo-

WITH FORMS IN PLACE UP THE TREESTLE steel in the west side diversion channel, first concrete for the piers was poured Tuesday. The concrete will serve to protect the trestles and will be a part of the dam.

-oOo-

THE NEW SAND STORAGE PILE, 335 FEET long, was used Tuesday. The tunnel which houses the sand will provide one full day of drainage.

#

COULLEE TRADING CO

SKINNED HAMIS

BUTT OR HOCK ENDS

23¢#

BROILERS

FRESH KILLED —

35¢#

HENS

FRESH KILLED

25¢#

LEG PORK ROAST

CHOICE OF EITHER END

23¢#

STAR LARD

PACKAGED

17¢#

MEAT DEPT